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PUBLIC UTILITIES
 COMMISSION

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FILED

BEFORE THE PUBLIC UTILITIES COMMISSION
 OF THE STATE OF HAWAII

In the Matter of the Application of)	
)	
HAWAIIAN ELECTRIC COMPANY, INC.)	DOCKET NO. 05-0069
)	
For Approval and/or Modification of)	
Demand-Side and Load Management)	
Program and Recovery of Program)	
<u>Costs and DSM Utility Incentives.</u>)	

DIVISION OF CONSUMER ADVOCACY'S
COMMENTS ON HAWAII RENEWABLE ENERGY ALLIANCE'S SEA WATER AIR
CONDITIONING PROPOSAL

Pursuant to the addendum to the procedural schedule reflected in the September 8, 2006 letter from Hawaiian Electric Company, Inc. ("HECO" or "Company") in the instant proceeding, the Division of Consumer Advocacy ("Consumer Advocate") submits its **COMMENTS ON HAWAII RENEWABLE ENERGY ALLIANCE'S SEA WATER AIR CONDITIONING PROPOSAL** (i.e., HREA Hearing Exhibit 2).

I. INTRODUCTION.

On August 31, 2006 at the hearings held in this Docket No. 05-0069 to receive testimony and comments on the proposed demand-side management ("DSM")

programs of HECO, the Hawaii Renewable Energy Association ("HREA") distributed a proposal requesting that HECO provide a \$500 per ton incentive payment (in the form of a prescriptive rebate) to customers who install a Sea Water Air Conditioning ("SWAC") system that would displace existing electric powered air conditioning equipment. HREA's proposal is intended to help fund the construction of a 25,000 ton central SWAC-based chiller plant that would produce, distribute, and sell chilled water to nearby buildings.

On September 8, the Consumer Advocate and other parties to this proceeding submitted information requests to HREA concerning its SWAC proposal. On September 22, 2006, HREA responded to those information requests. Comments are due to be filed by October 6, 2006. This document contains the Consumer Advocate's comments on HREA's SWAC proposal.

II. ANALYSIS.

The Consumer Advocate's information requests were intended to serve two primary objectives. First, the Consumer Advocate sought to augment its understanding of the SWAC technology. Second, the Consumer Advocate sought to understand the degree to which SWAC developers are ready to deploy a fully-engineered, economically-viable technology and the cost-effectiveness of the technology in Hawaii's energy market. Ultimately, the Consumer Advocate sought to understand the degree to which the SWAC technology can be relied upon as source of energy savings that would benefit both consumers and the Company. This information was expected to shed light on whether and to what degree customer incentive payments (i.e., in the form of

rebates, or otherwise) may be appropriate and necessary. The Consumer Advocate acknowledges that this technology has been successfully implemented in other parts of the world. Nonetheless, there are important questions regarding the degree to which the technology is applicable to Hawaii's specific circumstances and, if so, whether it is ready for deployment and can be deployed cost-effectively.

In response to questions posed by the Consumer Advocate and other parties, HREA provided some information that is helpful to understanding their proposal and the potential value that SWAC might bring. At a conceptual level, access to a "free" source of chilled water gathered from the ocean's depths is enticing. However, at this point in time, many of the uncertainties with the viability of the near term implementation of the technology and the cost effectiveness of the technology remain. There are numerous questions to which HREA declined to provide answers. In some instances, it cited the need to protect confidential and competitively sensitive information. In other instances, requested information was not provided because HREA claims that it is not necessary in order for the requested \$500 per ton rebate to be approved. Examples of the information not provided are shown in the following partial list:

- Annual usage of existing air conditioning in ton-hours for the buildings to be served by the SWAC central chiller plant. (HECO-IR-101-e.)
- The installed cost of the customer hook-up to the SWAC system. (HECO-IR-105.)
- The cost of the central SWAC plant, including the deep water loop, annual O&M costs, depreciation assumptions, and tax credit assumptions. (HECO-IR-109.)

- The customer payback with three alternative levels of incentives from HECO; (a) no incentive, (b) the existing CICR program rebate of \$125 per peak KW. (HECO-IR-116.)
- The list of buildings that contain potential customers for the chilled water from the SWAC plant. (CA-IR-2.)
- The type of equipment that each customer would need to install in order to utilize chilled water from the SWAC plant, and the cost to operate and maintain that equipment. (CA-IR-5.)
- The cost to install, operate, and maintain the equipment necessary to connect each building to the SWAC plant. (CA-IR-6.)
- A calculation showing the estimated cost of operating each building's existing air conditioning system. (CA-IR-9.)
- A calculation showing the estimated cost of producing the same level of air conditioning with chilled water provided by the central SWAC plant. (CA-IR-10.)

III. DISCUSSION AND RECOMMENDATIONS.

All of the above information is required in order to assess whether SWAC is likely to serve as a viable renewable DSM energy resource in Hawaii, whether it would be economically-viable, and whether it would successfully pass the cost-effectiveness tests that typically are applied to DSM programs. Without this information, the Consumer Advocate cannot determine whether HREA's proposal represents a viable DSM option that merits an allotment of DSM program dollars through this proceeding. The

Consumer Advocate notes that a proposal for a \$500 per ton rebate for a 25,000 ton central SWAC system would cost consumers \$12.5 million, more than 60% of HECO's total proposed annual DSM budget¹ in this proceeding. The Consumer Advocate is reluctant to endorse the commitment of such a large sum of ratepayer funds unless it is confident that the money will be prudently spent and savings will actually be delivered with acceptable impact on electric rates.

HREA should be applauded for its innovative thinking in advancing this proposal. If it can be successfully implemented in a cost-effective manner, SWAC could be a significant, environmentally-friendly contributor to Hawaii's energy needs. The Consumer Advocate observes, however, that based largely on a lack of information, a SWAC project has not been shown to be an economically-viable, "ready-to-implement" option at this time. The Consumer Advocate also observes, given the lead times involved, that a SWAC project is unlikely to begin commercial operation in the next year or two. Thus, at a practical level, such a project would not have a bearing on HECO's DSM budget for some time to come. The remaining issue before the Commission, then, is whether HECO should be obligated to make a commitment at this time for the proposed SWAC project, or provide some advance indication in relation to the level of customer incentives that a developer of a SWAC project might be entitled to if and when such a project begins producing a steady stream of energy savings.

Providing suitable incentives for emerging demand-side programs is important. Such programs ultimately may play an important role in Hawaii's energy future.

¹ Excluding incentives and lost margins, HECO's proposed DSM budget in this proceeding is approximately \$20 million.

Nonetheless, the issue of commitments to a level of incentives to be paid at some point in the future raises difficult questions. Ideally, such incentives would be consistent with the level of benefits to be provided as capacity and energy savings are realized. They would also reflect a utility's reliability position; i.e., a utility that is short of capacity may have to pay an extra increment to secure demand- and supply-side programs to shore up that position. In addition, the value of "external" benefits provided through capacity and energy savings also may play a role.

Unfortunately, it is difficult to predict all of these things in advance. Thus, it is difficult for the Commission to identify with certainty today a rebate level that might reasonably compensate a provider of capacity- and energy-savings at a future date when a given emergent demand-side technology is implemented. The Consumer Advocate sees two options as available. Either (1) the Commission can state that the history of customer incentives/rebates available to qualifying demand-side programs can serve as a guide to DSM developers as they project potential customer incentives in their economic analyses, or (2) the Commission can require the utility to identify today a schedule of customer incentives/rebates that the Commission expects will require the utility to provide in relation to future DSM programs and their budgets. At this time, the Consumer Advocate prefers the former because it minimizes advance commitments in an uncertain environment.

Therefore, the Consumer Advocates recommends that the Commission proceed with its review of the current DSM programs, excluding the SWAC proposal, in this proceeding. Action on the SWAC proposal should be deferred and considered in the development of HECO's 4th IRP, which pursuant to the schedule set forth in the

Commission's IRP Framework is to be filed on or about the fourth quarter of 2008, focusing on the twenty-year planning horizon covering 2009 through 2018 and five-year action plan for 2009 through 2014. In the interim, the Commission should remind HECO that it should give careful consideration to all technologies that offer promising paths to cost-effective capacity and energy savings, and to design effective programs to implement any such new technologies as they become commercially viable. When HREA provides sufficient information to completely evaluate the technical and economic merits of the SWAC proposal, the Consumer Advocate will work with HREA, the Company, and other interested parties to attempt to determine what level of customer incentives is in the best interests of the electricity consumers of Hawaii.

The Consumer Advocate reserves the right to supplement these comments upon receipt of any outstanding responses to information requests posed to HREA.

DATED: Honolulu, Hawaii, October 6, 2006.

Respectfully submitted,

By *Cheryl S. Kikuta*
CHERYL S. KIKUTA
Utilities Administrator

DIVISION OF CONSUMER ADVOCACY

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing **DIVISION OF CONSUMER ADVOCACY'S COMMENTS ON HAWAII RENEWABLE ENERGY ALLIANCE'S SEA WATER AIR CONDITIONING PROPOSAL** was duly served upon the following parties, by personal service, hand delivery, and/or U.S. mail, postage prepaid, and properly addressed pursuant to HAR § 6-61-21(d).

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